

PATENT SPECIFICATION

Convention Date (Belgium) : Nov. 13, 1930.

379,558

Application Date (in United Kingdom) : Nov. 9, 1931. No. 31,011 / 31.

(Patent of Addition to No. 377,411. Convention Date (Belgium) : July 16, 1930.)

Complete Accepted: Sept. 1, 1932.

COMPLETE SPECIFICATION.



Improved Process of Preparing Cinematograph Films Bearing Natural Colour Pictures and Sound Records.

I, LÉON JOSSE DASSONVILLE, a Belgian subject, of 35, Avenue Paul de Jaer Brussels, Belgium, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The present invention relates to an improvement in or a modification of the process for preparing coloured photographic and cinematographic positives described and claimed in my co-pending patent application No. 19,999 filed July 11th, 1931 (Serial No. 377,411). Its object is to apply said process to the preparation of cinematographic sound films, whereby I have found it possible to secure marked advantages over known processes for the production of sound films in one or several colours.

As is well-known, one of the chief difficulties attending the printing of the "sound strip" of any positive sound film arises from the fact that the particles of silver contained in the sensitized emulsion of said positive film, which reproduce the sound record when exposed beneath the sound strip of the negative film, swell during the subsequent toning of the film and thereby greatly impair the faithful reproduction of sound.

This disadvantage attends the recording process known as that of "fixed density," in which sound variations are represented by denticulations in a strip of uniform opacity, as well as the process known as that of "varying density," wherein variations of opacity throughout the width of said strip represent those of sound.

Whichever of said processes of reproduction is applied, the disadvantage due to the swelling of the particles of silver may be wholly obviated, by adapting the process disclosed in my patent application aforesaid to the preparation of polychromatic sound films in the manner hereinafter described.

When two images of different colours are produced in one and the same coating of gelatine in the manner disclosed in the

principal Patent, the first image alone is constituted by particles of silver, whilst the second image is formed by a salt of another metal, e.g. by ferrous ferricyanide (Turnbull's blue) which is grainless. In accordance with my present invention advantage is taken of this peculiarity to make the sound strip of the film of the same grainless salt.

To this end, during the exposure of the positive film beneath the first negative for the purpose of making the first or silver salt image, the portion of said film which is to receive the sound strip is so protected by means of a mask that it is not exposed. When the first image is thereafter fixed with hyposulphite, the latter dissolves the particles of unreduced silver salt of said masked portion, subsequent washing eliminating them completely and leaving only pure, transparent gelatine. Said gelatine is then resensitized, together with the remainder of the film bearing the image in reduced silver by being immersed in an acid solution of ferric chloride, for example, the film being thereafter so exposed beneath the second negative that the sound strip is printed thereon, together with the second image. By then proceeding as disclosed in my said co-pending application, beside said second image developed in blue, the sound record is secured likewise in blue upon a grainless strip, and perfect sound reproduction is rendered possible when the film is projected. The second negative must of course bear the negative sound record of which the positive reproduction is required.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A process of preparing coloured cinematographic sound films according to my co-pending patent application No. 19,999 filed July 11th, 1931, (Serial No. 377,411) wherein the salt used for making the second image is also utilized to make the sound record in the sensitized coating,

[Price 1/-]

after the unexposed silver salt has been removed from the portion of said coating in which said record is to be made.

2. A process as claimed in claim 1,
5 wherein the portion of the sensitized coating in which sound is to be recorded is masked during the exposure of the first silver salt image in order that the unre-
10 posed portion may be eliminated during subsequent toning and washing of said

first image, whereafter the whole coating is resensitized by means of the salt of which the second image is to be formed, and the sound record is made in the coat-
15 ing of said unexposed portion simultaneously with said second image.

3. A process of preparing coloured cinematographic sound films, substan-
20 tially as hereinbefore disclosed.

Dated this 9th day of November, 1931.
MARKS & CLERK.